

## The Flemish contributions to LifeWatch

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The biodiversity on Earth is declining at an alarming rate: worldwide ecosystems are disappearing and many species are threatened with extinction. And, unfortunately, our role in this worrying story can no longer be ignored, since the cause for this loss in biodiversity is largely associated with human population growth. Furthermore, the current availability of and access to habitat observations and ecosystem biodiversity data at species level is poor, indicating large spatial and temporal gaps.

This discrepancy identified the need for infrastructure facilities that support biodiversity observations, research and management. Therefore it is increasingly important that Europe develops novel approaches to understand and manage our living environment, allowing for the development of reliable and science-based management strategies.

Within this framework, LifeWatch was established as part of the European Strategy Forum on Research Infrastructures (ESFRI). LifeWatch is a distributed virtual laboratory and will be used for biodiversity research, for climatological and environmental impact studies, to support the development of ecosystem services and to provide information for policy makers in Europe. This large European research infrastructure will consist of several biodiversity observatories, databases, web services and modelling tools. It will be integrating the existing systems, upgrading them where possible and developing new systems where needed.

The Flemish contributions to the LifeWatch infrastructure are coordinated by the Flanders Marine Institute (VLIZ) and the Research Institute for Nature and Forest (INBO).

Flanders is contributing to the central LifeWatch components with a taxonomic backbone, which will include taxonomy access services, a taxonomic editing environment, species occurrence services and catalogue services. These species information services will facilitate the standardization of species data and the integration of the distributed biodiversity data repositories and operating facilities.

Furthermore, Flanders is contributing to the regional LifeWatch components with marine, freshwater and terrestrial observatories, several biodiversity data systems, web services, models and applications. These online data services, models and applications will make up the interactive part of the LifeWatch.be portal and will form a valuable contribution to the data available from the supporting data systems, the taxonomic backbone, and the data collected by the observatories and sensor networks.

In order to fill the spatial and temporal gaps in the biodiversity data that is currently available to science, data archaeology activities will be carried out during the LifeWatch construction phase. This will improve the accessibility and visibility of the data for the scientific community.